

January 29, 2015

City of Santa Barbara  
El Estero Waste Water Treatment Plant  
NPDES Permit R3-2010-0011  
Amendment

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## Why we are here

- Proposing amendment to NPDES permit
- NPDES permit lacks a necessary finding regarding CWC Section 13142.5(b)
- The amendment finding clarifies that the facility is considered existing

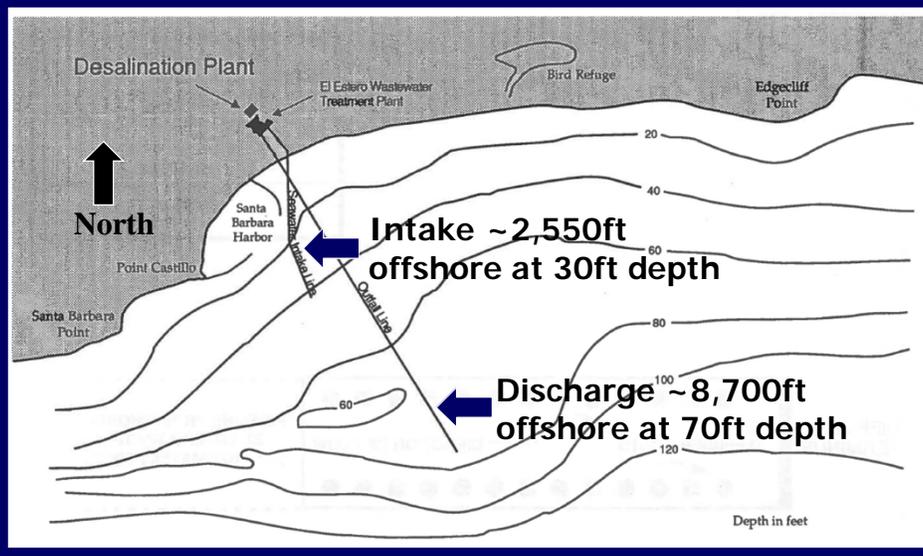
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## Timeline of NPDES Permits

- Desalination facility permitted, constructed and operated in early 1990's
- Desalination facility put into long term storage in 1996 as part of City's LTWSP
- Several renewals to the permit since 1991 with latest in 2010
- City wants to activate desalination facility due to drought

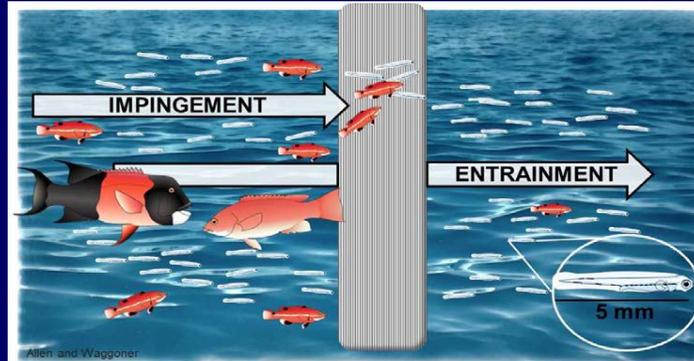
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## Location of WWTP, desalination facility, discharge and intake



## Potential impacts from open ocean intakes

- Impingement-when marine organisms become trapped against intake screens



- Entrainment-when marine organisms are drawn in with the source water and transported into the system

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## Potential impacts from ocean intakes

- Construction related impacts  
Can impact bottom-dwelling marine organisms by disrupting their breeding habitat, foraging grounds, and vegetation



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## Order No. R3-2010-0011

- California Water Code § 13142.5(b)  
“For each new or expanded coastal powerplant or other industrial installation using seawater for processing, the best available site, design, technology, and mitigation measures feasible to minimize intake and mortality of all forms of marine life.”
- The best combination of measures (i.e. site, design, technology, and mitigation) may not always include the best alternative under each measure.
- Amendment provides § 13142.5(b) finding based on information available when facility was built and permitted

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## Evaluation of intake during 1990s

- Site:  
Adjacent to El Estero Wastewater Facility is the best site feasible to minimize intake and mortality of marine life:
  - Use of existing infrastructure limits environmental impacts due to construction
  - Existing outfall and intake structures located in sandy bottom marine habitats
  - Ability to distribute water throughout region

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## Evaluation of intake during 1990s

- Design:
  - Co-location with El Estero WWTF allows use of existing intake and outfall structures
  - Brine is commingled with wastewater and discharged through offshore outfall
  - Outfall designed with diffusers to increase dispersion
  - Intake structures designed for low velocity inflow to minimize impacts to marine life

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## Evaluation of intake during 1990s

- Technology:
  - Feasibility and hydrogeologic studies concluded subsurface intakes were infeasible based on regional water needs
  - Commingled brine with diffusers at outfall
  - Low velocity screened intake system was best technology feasible to minimize mortality of marine life.

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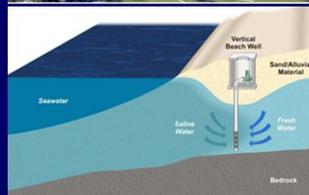
## Evaluation of intake during 1990s

- Mitigation:
  - Impingement effects - insignificant with the use of low velocity screened intakes
  - Unavoidable entrainment impacts - insignificant due to high productivity of the area and mortality would not impact plankton communities

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## City volunteers the following environmental projects with the Amendment

1. Construct wedge wire screens to decrease impingement and entrainment
2. Spend \$500,000 for Devereux Slough Project
3. Study by 2017 to assess the feasibility of subsurface intakes and potable reuse



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## Conclusion

- Permits should have had 13142.5(b) finding
- Facility is existing per this finding
- Amendment is 13142.5(b) finding based on information during the time facility was built
- City volunteers beneficial environmental projects with this Amendment

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## Recommendation

- Adopt NPDES Order R3-2010-0011 amendment with supplemental sheet changes

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